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ABSTRACT

Attitudes of four groups of elementary school students toward 10 socially relevant concepts, e.g., "self," "monolingual French Canadians," "bilingual English Canadians," and other areas are studied. Two of the groups were grade five and six English-speaking Canadian Students who had participated in either an "early" or a "late" French immersion program. For purposes of comparison, an otherwise comparable group of English-speaking Canadian students with no French immersion experience was included, along with a group of French-speaking Canadian students in a totally French-language school program. The paired dissimilarity ratings of the 10 concepts were subjected to multidimensional scaling analyses and analyses of variance. The results indicate that while language and ethnicity (French vs. English) were important dimensions along which all four groups judged social similarities, extensive experience with the other group's language (as exemplified here in "early" French immersion experience) led to a reduction in the extensity of the language-ethnicity dimension. It also reduced the differences perceived between self, one's own ethno-linguistic group, and the relevant other ethno-linguistic group. (Author/SW)

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FRENCH IMMERSION PROGRAMS AND STUDENTS' SOCIAL ATTITUDES: A MULTIDIMENSIONAL INVESTIGATION[1]

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Since 1965 there has been a rapid growth in the popularity of French immersion programs throughout Canada, and there are signs that other nations (e.g., the U.S.A. and Ireland) are beginning to explore their possibilities. In Canada such programs provide classroom instruction through the French language to English Canadian children, starting either at the Kindergarten, Grade 4 or Grade 7 levels of elementary school, with the objectives of promoting high levels of proficiency in French, without negative effects on English language development, and enhancing an appreciation for French-speaking people and the French-English character of Canada. These programs have been extensively evaluated with respect to their academic, linguistic, cognitive, and affective impact on participating children, and virtually all evaluations to date have consistently found that immersion programs are very effective in fostering the development of French language skills, with no detrimental effects on English language development or on academic or cognitive development (see Lambert & Tucker, 1972; Swain, 1974; Genesee, Note 1). With respect to the affective consequences, however, findings have been considerably less consistent.

Lambert & Tucker (1972) explored the affective consequences of French immersion by measuring certain aspects of the social attitudes of English Canadian children in the "pilot" and "follow-up" classes of the original St. Lambert French immersion program. This was done by having pupils rate the concepts "English Canadians", "French Canadians", "European French people", and "myself" on a series of bipolar rating scales, each scale bounded by adjective pairs such as "intelligent . . . stupid", "kind . . . mean", and "good-looking . . . ugly". It was found that the French immersion children at Grade 2 had more favorable views of French Canadian and European people than did children attending conventional English language programs, even though the latter had comprehensive instruction in French-as-a-second-language from Grade 1 on. However, there were no such differences between the same groups of children at later grades (see also Lambert, Tucker & d'Anglejan, 1973). Nonetheless, when Grade 5 immersion children were asked direct questions about their feelings and attitudes, they clearly had more favorable social attitudes. For example, to the question: "Since you have started learning about French people at school, do you like French Canadian people (or European French people) more now?"

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the Grade 5 immersion students said they liked French Canadians more now than they did at the start of schooling, much more so than did the Grade 5 control students (Lambert & Tucker, 1972, p. 192 ff). Similarly, when asked "Suppose you happened to be born into a French Canadian family, would you be just as happy?" the Grade 5 immersion students were again much more likely to say that they would be "just as happy". At the Grade 4 level, however, there were no significant differences between immersion and control children on these questions. Still, Grade 4 and 5 children both showed more favorable outlooks when asked: "Do you think, in the course of your studying French, that you have become less English Canadian in your thoughts and feelings, or do you see yourself now being both English and French Canadian, or as more English Canadian?". In this instance both Grade 4 and Grade 5 immersion students were decidedly more likely to see themselves as becoming both English and French Canadian in makeup. As we will see, this question is particularly relevant to the present investigation.

The underlying theory here is that English Canadian children who participate in French immersion programs have a particularly good chance to develop favorable and realistic attitudes toward French-speaking people because of their daily interaction with a teacher who is a representative of the French community and who provides them with the opportunities to develop high levels of proficiency in French. As the language proficiency progresses, it is presumed that much of the foreignness of the other group will be dispelled, permitting students to know and appreciate the distinctive and the shared characteristics of the other ethnolinguistic group. This general hypothesis has been the principal theme of all of the more recent investigations of the affective consequences of these programs. Thus, Cziko, Holobow, and Lambert (Note 2) and Cziko, Holobow, Lambert & Tucker (Note 3) found further evidence that French immersion programs foster more favorable attitudes toward French-speaking people, at the same time as other studies found essentially no differences in attitudes between immersion and control pupils (Cziko, Holobow & Lambert, Note 4; Genesee, Morin & Allister, Note 5). Using a quite different mode of assessing attitudes, Genesee, Tucker & Lambert (1978) found that while Grade 1 and 2 French immersion children tended to identify more with French people (Canadian as well as those from France) than did children in conventional English-language programs, no such difference showed up with Grade 3, 4 and 5 children. Clearly, there is a great deal of variation in the results of these studies, although in no case were children in immersion programs less favorable in their attitudes to the "other" group than the control children.

On the assumption that this variation might be due to our preoccupation with the evaluative aspects of attitudes -- which could change abruptly with young respondents -- the present study was designed to investigate other possibly more stable features

of attitudes, those revealed through multidimensional scaling (MDS), a methodological and computational technique that has proven extremely valuable in studies of social perception (see Frasure-Smith, Lambert & Taylor, 1975; Taylor, 1976; Christian, Note 6). The major advantage of MDS over techniques using labelled rating scales is that MDS allows respondents to make use of whatever traits or dimensions they feel are appropriate in their attempts to distinguish the members of any pair. This is achieved by simply asking respondents to rate pairs of concepts (such as Americans and French people from France) in terms of their perceived dissimilarity. The grounds for making these dissimilarity judgments is left to the respondent. Using dissimilarity judgments as data, MDS produces a configuration of the various concepts produced by a respondent or by a group of respondents which summarizes and graphically describes the perceived dissimilarities as well as the dimensions used in making the judgments.

For this study, we tested English-speaking students from two types of French immersion programs as well as controls who were in conventional English- or French-language programs. Our aim was to obtain a clearer picture of the social attitudes of these students and, in particular, a better view of the affective consequences of French immersion programs. In particular we attempted to investigate the usefulness of MDS for investigating students' perceptions of self and of various ethnolinguistic groups and to uncover any group differences in these perceptions attributable to students' ethnolinguistic background and the particular language program followed at school.

Methods

Subjects

Eight groups of students from the Montreal area were included in the study, four at Grade 5 and four at Grade 6 levels. There were two groups of "English-speaking Control" students (Groups 5EC and 6EC), two groups of "Early Immersion" students (Groups 5EI and 6EI), two of "Late Immersion" students (Groups 5LI and 6LI), and two of "French-speaking Control" students (Groups 5FC and 6FC).

The English control groups (24 in Group 5EC and 30 in Group 6EC) comprised English-speaking students who had followed a conventional English language school curriculum throughout the elementary grades, with approximately 30 to 45 minutes of French-as-a-second-language (FSL) instruction per day starting from Grade 1.

The "early" immersion groups (35 in Group 5EI and 35 in Group 6EI) comprised English-speaking students who had entered a French immersion program in Kindergarten. For them, French had been used as the sole language of instruction in Kindergarten and

Grade 1, with both French and progressively more English as languages of instruction from Grade 2 on.

The "late" immersion groups (44 in Group 5LI and 13 in Group 6LI) comprised English-speaking students who had participated in a one-year French immersion program at Grade 4. From Grades 1 through 3 their basic instruction was in English, with approximately 30 to 45 minutes of FSL instruction per day. At Grade 4 all subject matters were taught through French, with the exception of approximately 45 minutes per day of English Language Arts. At Grade 5 their basic instruction was again in English with a special advanced FSL class each day and one content matter taught in French. At Grade 6, group 6LI received all instruction via English except for one regular class of FSL per day.

Finally, 73 French-speaking students served as French controls (35 in Group 5FC, 38 in Group 6FC). These students came from French-speaking homes and had followed a conventional French language curriculum in which French was used as the language of instruction for all content subjects, with English-as-a-second-language started only in Grade 5.

The MDS Procedure

All 254 students completed a questionnaire in which they made paired comparisons (judgments of degrees of dissimilarity) among 10 socially relevant concepts: "monolingual English Canadians" (mECs), "bilingual English Canadians" (bECs), "monolingual French Canadians" (mFCs), "bilingual French Canadians" (bFCs), "Italian Canadians" (ICs), "English people from England" (EEs), "French people from France" (FFs), "Americans" (As), "your teacher", and "yourself". Each student dealt with 45 pairs of concepts, i.e., an exhaustive, nonredundant set presented in random order. Directly beside each pair were nine blanks, numbered consecutively from 1 to 9, with the labels "very similar" and "very different" attached to the first and ninth blanks respectively. The French students received a French version of the questionnaire.

Students were tested in groups in their classrooms. They were instructed on how to indicate the dissimilarity of each pair of concepts -- by placing an "X" in one of the nine blanks. They were urged to use the entire range of rating points for their responses and, realizing that there were no "right" or "wrong" responses, they were to make their decisions using whatever reasons they felt were appropriate. A simple example was worked out on the blackboard and questions were answered. Instructions were given in French to the FC groups and in English to the others.

MDS Analyses

Separate MDS analyses were carried out for each group of students, providing us with configurations of the perceived distances among the ten concepts based on all members' judgment of

dissimilarity. This was done by means of an MDS computer program developed by Ramsay (1978). Ramsay's M2 model "allows for the possibility that the data for any two replications may differ from each other by a scale factor" and "the possibility that each subject's dissimilarities have a power law relationship to the basic common distances" (p. 18).

Using this model, preliminary analyses were undertaken to determine the appropriate number or dimensions to be included in the final analyses, and to determine whether the responses of particular students stood out conspicuously from the others in their group. For all eight analyses, the logarithm of the likelihood estimates increased significantly up to the three-dimensional solution, whereas the unbiased standard error estimates did not increase appreciably beyond the two-dimensional solutions. These criteria suggested that two-dimensional solutions were appropriate for all groups.

It was also decided to remove from further analysis any respondent with an unusual pattern of judgments. Specifically, any student whose solutions showed negative exponents in the relation between dissimilarity and distance or an unbiased standard error greater than .75 was eliminated, following Ramsay's (1978, pp. 44-45) suggestions. Those eliminated were almost invariably the few who had restricted their judgments to the extreme ends of the scale.

Using these guidelines, a total of 27 students were excluded from further analysis, leaving 21 students in Group 5EC, 28 in 6EC, 40 in 5LI, 13 in 6LI, 34 in 5EI, 33 in 6EI, 27 in 5FC, and 31 in 6FC, for a final total of 227 students. In addition, the preliminary analyses indicated that there were trivial differences between the solutions of Grade 5 and 6 classes within any of the four language groups. Thus, Grade 5 and 6 levels were combined, giving us four major groups, denoted as EC, LI, EI, and FC. Separate two-dimensional MDS solutions were then obtained for each of these four groups.

Finally, the configurations obtained for Groups LI, EI, and FC were transformed to match as closely as possible that for Group EC, which was considered to be the major reference configuration. This is a necessary step, according to Ramsay (1978, p.19). The transformation consisted of an orthogonal rotation of the axes and a multiplication of the coordinates by a constant, using normalized least squares as the criterion of fit between the reference and transformed configuration. An index of the similarity between the reference and each of the three transformed configurations was also computed. This index has the properties of a correlation coefficient, with a value close to zero indicating virtually no similarity between the two configurations and a value close to one indicating high between-configuration similarity.

Analyses of Variance

Numerous analyses of variance were also carried out to test the statistical significance of group differences in dissimilarity ratings for 12 selected pairs of concepts. The pairs examined were "self compared with mECs, bECs, mFCs, bFCs, EEs, and FFs as well as mECs with bECs, mFCs with bFCs, mECs with mFCs, bECs with bFCs, mECs with bFCs, and bECs with mFCs. Twelve separate one-way analyses of variance (one for each comparison) were performed, with group (EC, EI, LI and FC) as the independent variable, and the logarithmic transformations of the dissimilarity ratings as the dependent variable. Neuman-Keuls multiple comparisons of group means, using the log transformed ratings, were carried out when significant F-ratios were found.

Results

MDS Analyses

The MDS solutions for Groups EC, LI, EI and FC are plotted in Figures 1 through 4, with summary statistics presented in Table 1. The figures show clearly that the horizontal dimension for all four groups is an English-French dimension, with Americans and English people from England at one end, progressing through mECs, bECs, and bFCs with mFCs, to French people from France at the extreme French ethnicity end of the dimension. It is noteworthy that the three English-speaking groups of students are very similar in the way they place themselves along this dimension: for all three groups the concept "self" falls somewhere between mECs and bECs, although Group EI places "self" closer to bECs than do the other two groups. As one would expect, the FC students place "self" much closer to the French end of this dimension, between bFC and mFC.

The vertical dimension of the four configurations is not as clear or as easy to interpret. While all four groups place Italian Canadians at the extreme bottom end of this dimension, Group EC and EI place English people from England at the top while Groups LI and FC place Americans at the top. One might think of this vertical dimension as reflecting a contrast between an immigrant group (Italian Canadians) and two prestigious national groups (Americans and English English) that dominate the English-speaking world. However, since the only across-group consistency on this dimension is the placement of Italian Canadians, it may well be that this vertical dimension is not a true quantitative dimension but rather a result of all four student groups perceiving the Italian Canadians (the only immigrant group included) as being qualitatively different from all the other ethnolinguistic groups.

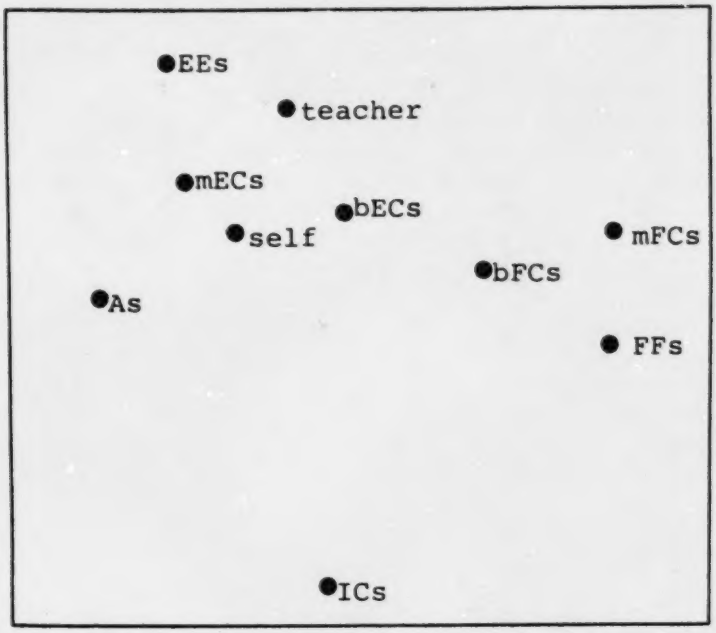

Figure 1. Final MDS Configuration for the English Control Group.

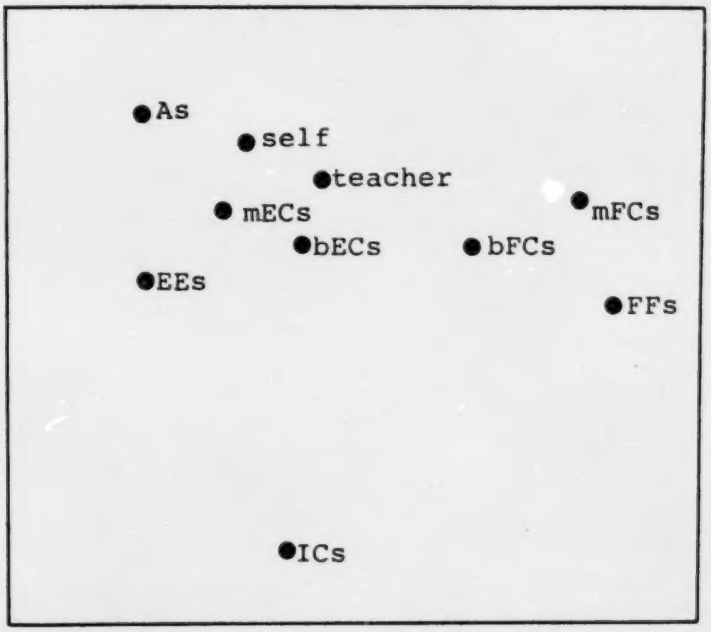

Figure 2. Final MDS Configuration for the Late Immersion Group.

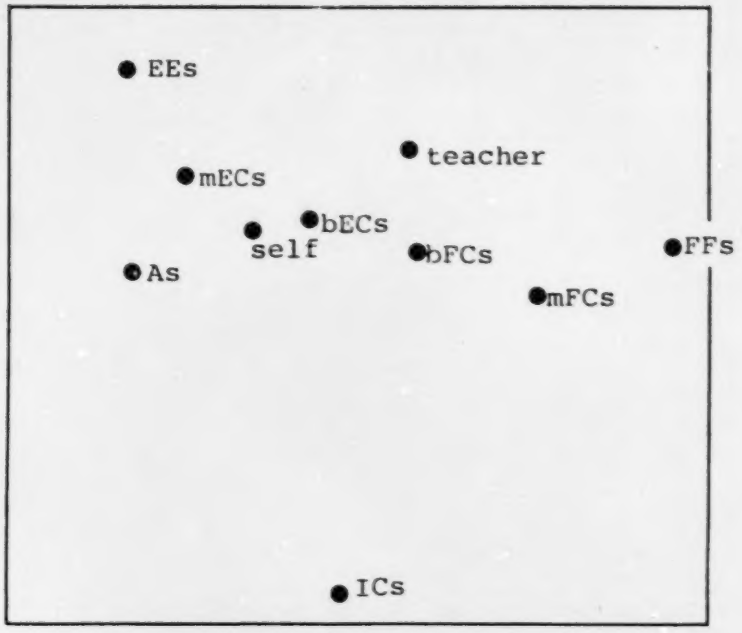

Figure 3. Final MDS Configuration for the Early Immersion Group.

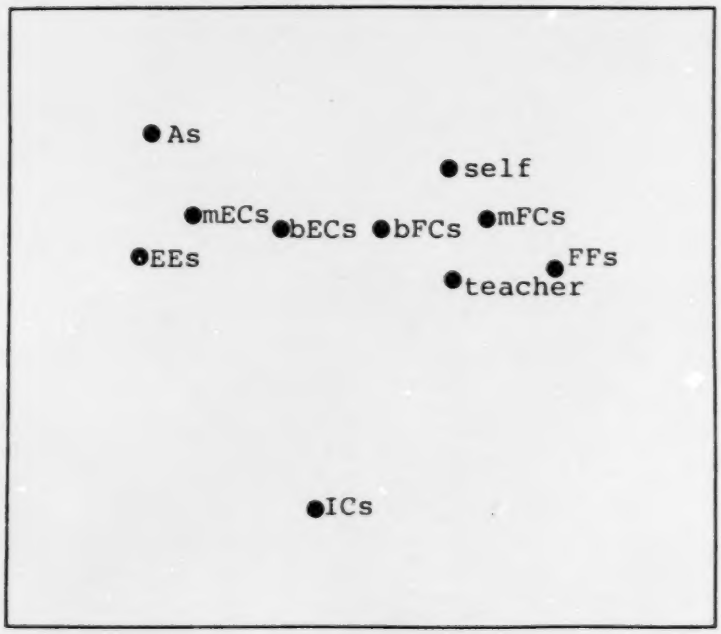

Figure 4. Final MDS Configuration for the French Control Group.

Table 1

Summary of the MDS Analyses

Group	English Control (EC)	Late Immersion (LI)	Early Immersion (EI)	French Control (FC)
Number of subjects	49	53	67	58
Unbiased standard error	.542	.527	.514	.565
Log likelihood	306.6	396.4	494.3	248.8
Number of iterations	114	55	315	59
Number of parometers	114	122	150	132
Number of df for error	2075	2242	2842	2451
Index of similarity to Group EC's solution	-	.88	.71	.75

Overall the configurations for the four student groups are quite similar, and this similarity is reflected in Table 1; Groups LI, EI and FC all show indices of similarity greater than .70 with reference to the Group EC configuration.

The general similarity of social perceptions is instructive in several regards. First, all four groups, whether FC or EC, display the same mode of ordering the ethnolinguistic reference groups along the horizontal dimension, placing Anglophones at one extreme and Francophones at the other. Thus, both French and English Canadian young people are unmistakably aware of an English French dichotomy in Canadian social life, just as they are aware of the presumed role that knowledge of the other group's language plays in making bilingual ECs and FCs closer to one another and clustered toward the center of this dimension. Apparently notions about ethnic differences and the function of bilinguality have been well taught and well learned by Canadian children. Second, there are socially significant differences in the ways the student groups place the reference groups along this dimension, particularly the tendency for the EI pupils, relative to the EC or LI pupils, to bring the bilingual EC and FC bilingual reference groups closer together, and to draw the monolingual FC group away from the extreme end point of the dimension. Apparently, in the eyes of the children with early immersion experience, the English-French features of Canadian society are less polarized, suggesting to us tnat, in their thinking, the social distance separate English- and French-speaking Canadians is reduced. Third, one's language experiences also affect the positioning of "self" along the horizontal dimension. Thus, the concept "self" is placed near the bEC reference point for Group EI, and this means that for these students, "self" is also closer to the bFC reference point. As would be expected, the two control groups place "self" closer to the respective monolingual reference concepts. Fourth, all students place the concept "teacher" in positions appropriate to their school experiences. Thus, "teacher" falls near the monolingual English Canadian and monolingual French Canadian reference points for the respective control groups, whereas for the immersion students, "teacher" falls closer to bECs for the LI group and closer to bFCs for the EI group, reflecting the differences in amount of experience these groups have had with English- and French-speaking teachers.

Analyses of Variance

The analyses of variance, summaried in Table 2, show significant group differences for 9 of the 12 analyses: the comparisons of "self" with mECs, bECs, mFCs, bFCs, EEs, and FFs, and the comparisons of mFCs with bFCs, bECs with bFCs, and mECs with bFCs. All of the comparisons involving the concept "self" make good sense and are easily interpreted. Thus, when differences among means are tested with the Neuman-Keuls procedure, we find that the French-speaking students see significantly more

Table 2

Group Means and F-ratios of Dissimilarity Ratings for Twelve Selected Comparisons

1. Self & mECs	EI 2.9	EC 2.9	LI 3.1	FC 6.1	F[a] 19.27**
2. Self & bECs	EI 2.2	LI 3.2	EC 3.4	FC 4.5	15.87**
3. Self & mFCs	FC 3.2	EI 5.4	LT 6.3	EC 6.6	26.18**
4. Self & bFCs	FC 3.0	EI 3.4	LI 4.9	EC 5.2	13.60**
5. Self & EE	EI 3.9	EC 4.0	LI 4.3	FC 7.2	14.54**
6. Self & FF	FC 4.0	EI 6.2	LI 6.7	EC 7.4	21.92**
7. mECs & bECs	FC 3.0	EI 3.2	LI 3.3	EC 3.7	1.32
8. mFCs & bFCs	FC 2.6	EI 3.0	EC 3.5	LI 3.7	4.48**
9. mECs & mFCs	FC 5.9	LI 5.9	EI 6.5	EC 6.6	1.49
10. bECs & bFCs	FC 3.0	EI 3.1	EC 3.8	LI 4.4	4.59**
11. mECs & bFCs	FC 4.4	EC 4.9	EI 5.4	LI 5.5	3.60*
12. bECs & mFCs	EI 4.5	FC 4.7	EC 5.0	LI 5.2	1.16

[a]For all F-ratios, df = 3. Clusters are underlined; scores within a cluster are not statistically different from one another but are different from those in adjacent clusters.

dissimilarity between themselves and the three Anglophone reference groups -- mECs, bECs, and EE -- than is the case for the three English-speaking groups, while the three English-speaking student groups (EC, LI and EI) perceive significantly more dissimilarity between themselves and the three Francophone reference groups, -- mFCs, bFCs, and FF -- than is the case for the English-speaking students. Of the three English-speaking groups, the EI students see significantly more similarity between themselves and bECs and between themselves and bFCs than do the EC or L1 students. This finding is particularly instructive because it indicates that English-speaking children with early experience in a French immersion program apparently perceive less difference between themselves and bilingual French Canadians than do Anglophone students without long-term immersion experience. Furthermore, this perceived similarity tends to generalize to monolingual French Canadians as well (see comparison 8 in Table 2), but this is a trend only for there are no reliable differences among the three English-speaking student groups when "self" is compared directly to mFCs, although the three means are lined up in the direction of the trend (see comparison 3). In this case, there are no significant differences among the three English-speaking groups with respect to their perceived distance from French people from France (comparison 6).

For the six remaining comparisons (all possible pairwise comparisons of mECs, bFCs, mFCs and bFCs), the French-speaking students perceive significantly more similarity between mFCs and bFCs than do the EI and LI students. Finally, the LI students perceive bECs and bFCs as more dissimilar than do the EI or the FC students (comparison 10).

Discussion

The two principal questions that motivated this investigation were: How valid and useful is the MDS methodology for determining students' perceptions of ethnolinguistic group difference; and are there reliable and socially relevant differences in these perceptions attributable to students' ethnolinguistic background and school language program? Adapting these questions to a Canadian setting, we compared the ethnic dissimilarity judgments of both Anglophone and Francophone elementary school pupils with the aim of exploring how English- and French-speaking Canadians perceive one another. Then we compared three groups of English-speaking students who differed in the extent of their study of the French language, with the particular purpose of exploring the relationship between French immersion programs and students' perceptions and attitudes.

The MDS configurations that were obtained and the analyses of variance of these judgments are extremely coherent and meaningful, convincing us that the MDS methodology is both useful and valid for fifth- and sixth- grade school children. For example,

there was a very consistent pattern in the final MDS configurations of each of the four student groups, English-speaking as well as French-speaking: in each case, the major dimension was bounded at one extreme by Americans and English people from England and at the other by French people from France, with mECs, bECs, bFCs and mFCs falling in a regular series between the extremes. We interpret this general configuration as a reflection of the force of early socialization in Canada where children of both major ethnic groups are taught, likely through contrasts that parents draw between ingroups and outgroups, that they belong to one group or the other, and that there are deep and real differences between groups like English Canadians and French Canadians (see Lambert & Klineberg, 1967). Incidentally, there is an interesting debate emerging as to whether there is any basis in fact to these perceived ingroup-outgroup distinctions (see Lambert, 1977; and Lambert, Note 7). In addition to the gulf between ECs and FCs that we see in the thinking of these young people, there is also a reflection of the reasonable notion that becoming bilingual in the other group's language narrows the gulf, as though in their thinking, becoming bilingual reduces the effects of ethnicity to some extent.

This notion of a competition between ethnicity and bilinguality was part of the rationale for the present study, which in its design emphasized variations in degrees of bilinguality by including English-speaking children with relatively little experience in French (i.e., our English-speaking control group, with FSL training only), others with somewhat more experience in French (the late immersion group), and still others with a good deal of experience (the early immersion group). The major finding of the study, seen both in the MDS configurations and the follow-up statistical comparisons, is that extensive experience with the other group's language, as in the case of the EI group, appears to reduce the English Canadian - French Canadian gulf to a significant degree. This takes place mainly by bringing bFCs closer to bECs in the thinking of EI students, relative to EC or LI students, and by moving the "self" concept closer to the cluster of bECs and bFCs. There is also a suggestion in the results for the EI children that the monolingual FCs are also brought closer to bFCs and thus indirectly closer to "self". Although factors other than those related to school program may have contributed to this finding, the early immersion experience seems to have reduced the social distance between self and French Canadians, especially French Canadians who are bilingual.

In conclusion, this investigation has persuaded us of the usefulness of MDS for investigating the attitudes of students in grade school and it has thrown new light on the nature and formation of attitudes towards self, "own" group and "other" group in the Canadian setting.

FOOTNOTES

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2. Presently at la Faculté des sciences de l'éducation of l'Université de Montréal.

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